

Serial No. 10/588,007

Amendments to the Drawings

In Fig. 7, add --light source unit (18 light emitting diode lamps)--.

The annotated sheet and replacement sheet are attached herewith.

REMARKS

This is a response to the Office Action of November 18, 2008.

In this response, claim 14 has been amended to depend from claim 13. No other amendment to the claims is made.

In regard to the Double Patenting Rejection, if claims of the application are in condition for allowance except for the double patenting rejection, terminal disclaimer will be filed.

In regard to the drawings, Fig. 7 has been amended to specify that each lamp unit has 18 light emitting diode lamps, which is disclosed on page 25, lines 2-4 from the bottom of the specification. Please withdraw the drawing objection.

On page 4 of the Action, claims 1-3, 8, 13 and 14 were rejected under 35 U.S.C. 102(b) as being anticipated by Ellens et al. On page 5 of the Action, claim 9 was rejected under 35 U.S.C. 103(a) as being unpatentable over Ellens.

However, a visible light emitting device of claim 1 of the invention is different from the light emitting device of Ellens and is not obvious therefrom.

In particular, Ellens is directed to an illumination unit using Eu-activated sialon emitting yellow-orange. In particular, Eu-activated sialon is expressed as $M_{p/2}Si_{12-p-q}Al_{p+q}O_qN_{16-q}:Eu^{2+}$ wherein M is Ca individually or in combination with Sr and Mg, q is 0 to 2.5, p is 0.5 to 3. In paragraph 0027, Ca- α -sialon is disclosed where M is Ca.

In claim 1, a second fluorescent material emitting yellowish red or red light uses a material, dissolved in a solid state in $CaAlSiN_3$ crystal phase, selected from a group consisting of Mn, Ce, Pr, Nd, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb and Lu.

In the Examiner's opinion, the second fluorescent material comprising $CaAlSiN_3$ crystal phase or structure, in claim 1 is substantially the same as the crystal structure of α -sialon emitting yellow-orange in Ellens. However, the crystal phase of

CaAlSiN_3 defined in claim 1 is different from that of Ca- α -sialon of Ellens through the components, i.e. Ca, Al, Si, N, are the same. The crystal structure of claim 1 is different from that of Ellens.

In order to show the difference between the crystal structure of claim 1 and that of Ellens, a declaration signed by the inventors of the invention is attached, wherein JCPDS cards of the invention and Ellens are shown. When comparing the JCPDS cards showing the crystal structures of the invention and Ellens, it is clear that CaAlSiN_3 of claim 1 is entirely different from Ca- α -sialon of Ellens.


As explained above, the present invention uses the fluorescent material where at least one of the elements forming the illumination center material is dissolved, in a solid state, in the different material, i.e. CaAlSiN_3 . The crystalline structure of the invention is entirely different from that of Ca- α -sialon of Ellens. Thus, the Eu-activated Ca- α -sialon of Ellens is entirely different from the second fluorescent material of claim 1.

As explained above, Ellens does not disclose or even suggest the second fluorescent material.

Reconsideration and allowance are earnestly solicited.

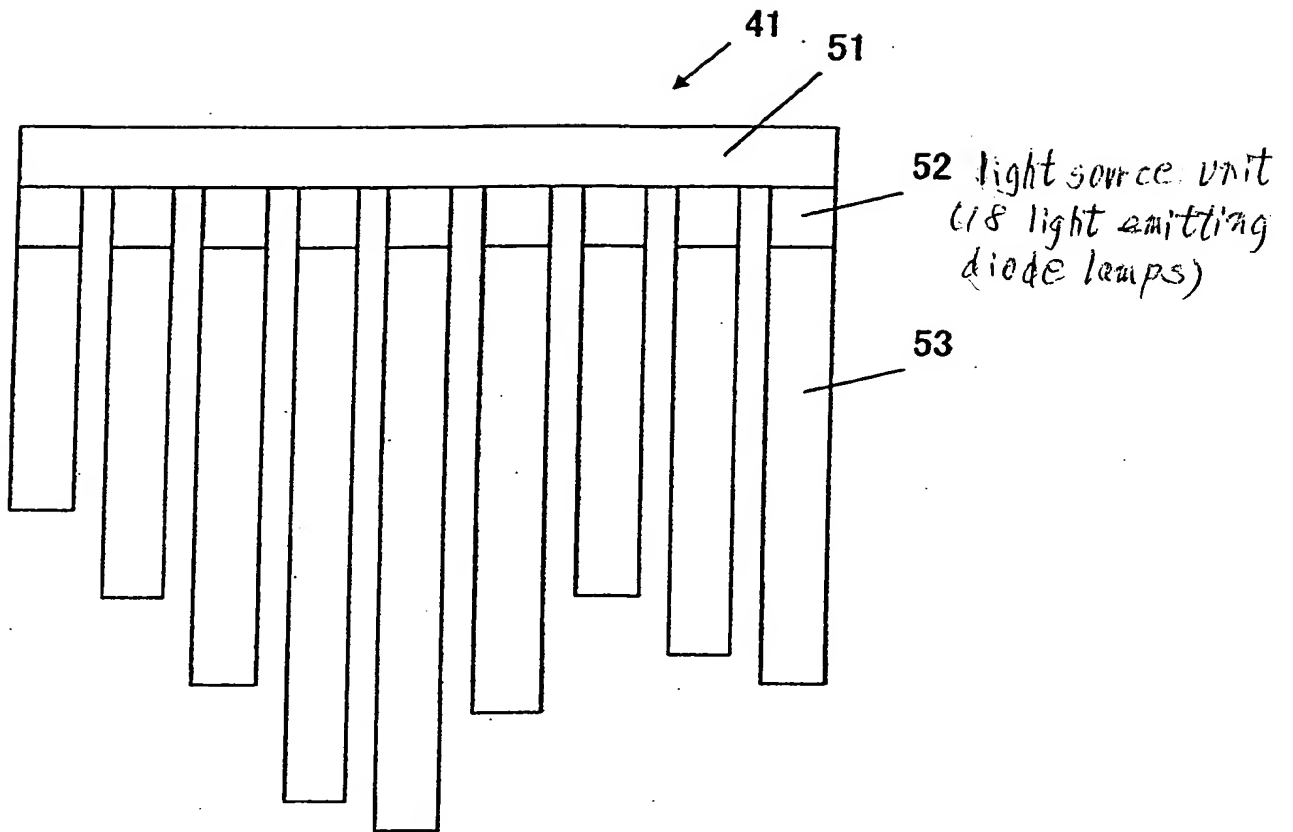
Respectfully Submitted,

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Fig. 7



Lighting apparatus of embodiment 3